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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/066,061

04/24/1998

MATTHEW ZAVRACKY

KPN97-04A2

8310

21005

7590

07/06/2004

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EXAMINER

NGUYEN, JIMMY H

ART UNIT

PAPER NUMBER

2673

34

DATE MAILED: 07/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/066,061

Applicant(s)

ZAVRACKY ET AL.

Examiner

Jimmy H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14, 16, 17, 25-29 and 39-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14, 16, 17, 25-29 and 39-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

J. H. Nguyen
Jimmy H. Nguyen

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is made in response to applicant's amendment filed on 04/29/2003 (entered into the file wrapper as Paper No. 33). Claims 14, 16, 17, 25-29 and 39-58 are currently pending in the application. An action follows below:

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 14, 17, 25-28, 39-41, 43-47, 49-56 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novis et al. (USPN: 5,867,795), hereinafter Novis, in view of Stewart et al. (USPN: 5,337,068), hereinafter Stewart, and further in view of Kitazima et al. (USPN: 4,532,506), hereinafter Kitazima.

As per claims 14, 25-27, 39-41, 44-46, 49-51, 53-55 and 58, Novis discloses a portable display system (see fig. 1) comprising a housing (11), a matrix liquid crystal display (LCD 20/60) mounted to the housing, inherently including an array of pixel electrodes (a visual LCD display 20/60, fig. 8, col. 7, lines 62-66), and having a display area of less than 200mm² (col. 7, lines 26-38, and col. 7, line 62 through col. 8, line 8), a lens (lens 44/62, col. 7, lines 44-46 and lines 58-59) that magnifies an image on the display, and a card reader (a slot 16) within the housing that receives video input to be displayed on the display from a smart card or a memory card (a smart card 18, col. 3, lines 46-51) that docks with the card reader (further see figs. 1, 5 and 8, col. 3, lines 25-51 and col. 7, lines 40-66). Novis does not expressly teach the active

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matrix LCD being an active matrix color sequential LCD comprising a light source and a display control circuit which includes a switching circuit and a timing circuit, as claimed. Accordingly, Novis discloses all the claimed limitations except for a particular active matrix color sequential LCD comprising a light source and a display control circuit which includes a switching circuit and a timing circuit, as claimed.

However, Stewart discloses a portable display system (col. 2, lines 21-27) comprising an active matrix color sequential LCD (figs. 2A-2B) including an array of pixel electrodes (258), a light source (lamps 202-218) and a display control circuit (a circuit including elements 102-112, see fig. 1), which includes a timing circuit (a circuit including a timing circuitry 110 and a commutator 112), further see fig. 6 and the corresponding description. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to substitute Stewart's the active matrix color sequential LCD for the LCD of Novis because the benefits of using the active matrix LCD to enhance the resolution of the display and using the backlight to enhance the luminance of the display, thereby allowing the user to view a better image, are well-known to those of ordinary skill in the art. Accordingly, the combination of Stewart and Novis discloses all the claimed limitations with the exception of the switching circuit.

However, Kitazima discloses an active matrix LCD (fig. 6) comprising a display control circuit which includes an inherent timing circuit for providing signals M, CP, D, FST, LST (see fig. 6), and a switching circuit (a counter electrode terminal voltage receiver 44, fig. 6) for switching a common voltage (V_{CM}) (see figs. 7 and 9, col. 5, lines 16-20, and lines 34-44) applied to counter electrode panel and having a high (V_c+V_b) or low (V_c-V_b) common voltage (see fig. 7) or a high (V_c+V_d) or low (V_c-V_d) common voltage (see fig. 9), based on the

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received signal M, thereby turning on and off the picture elements (i.e., writing and erasing the image). It would have been obvious to one of ordinary skill in the art to provide the switching circuit of Kitazima in the display control circuit of Novis in view of Stewart and to use the timing circuit of Novis in view of Stewart to also provide a control signal (M) to the switching circuit, as suggested by the Kitazima reference, because the AC driving waveform applied to counter electrode can generate a stable drive voltage without being affected by the property of the liquid crystal of small discharge time constant so that a high contrast and a fast operation speed can be attained, thereby providing a highly reliable display device, as taught by Kitazima (col. 5, line 65 through col. 6, line 8).

Regarding to claims 17, 28, 43, 47, 52 and 56, Novis implicitly discloses the array of pixel electrodes comprising an array of at least 640 x 480 pixel electrodes (col. 7, lines 26-38, and col. 7, line 62 through col. 8, line 8).

4. Claims 16 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novis in view of Stewart and Kitazima, as respectively applied to claims 14 and 41 above, and further in view of Ohtsuki et al. (USPN: 5,786,665), hereinafter Ohtsuki.

Regarding to these claims, Stewart further teach the light source being a fluorescent device (col. 5, lines 10-12), but does not disclose expressly the light source being a light emitting diode (LED) device, as claimed. Accordingly, the combination of Novis, Stewart and Kitazima discloses all the claimed limitations except for the fluorescent device instead of the claimed LED device.

However, Ohtsuki disclose a LCD device in which a LED device is used as a light source in order to reduce the thickness of the display device and the cost for a user (col. 35, lines 7-15).

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It would have been obvious to one of ordinary skill in the art to substitute Ohtsuki's the LED device for the fluorescent device of Novis because this would provide a thinner display device and reduce the cost for a user, as taught by Ohtsuki (col. 35, lines 7-15). Therefore, it would have been obvious to combine Ohtsuki, Kitazima and Stewart with Novis to obtain the invention as specified in claims above.

5. Claims 29, 48 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novis in view of Stewart and Kitazima, as respectively applied to claims 14, 41 and 51 above, and further in view of Zavracky et al. (USPN: 5,206,749), hereinafter Zavracky.

Regarding to claims above, Stewart further teaches the array of transistor circuits (TFTs 256) formed with polysilicon which is vapor-deposited onto a glass plate (230) (see fig. 2a). Accordingly, the combination of Novis, Stewart and Kitazima discloses all the claimed limitations except that the array of transistor circuits is formed with single crystal silicon and is bonded to an optically transmissive substrate with an adhesive layer, as claimed.

However, Zavracky discloses a display system in which the LCD display panel comprising an array of transistor circuits formed with single crystal silicon, and the array of transistor circuits being bonded to an optically transmissive substrate with an adhesive layer (see col. 1, lines 59-68). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize Zavracky's teachings above, i.e., forming an array of transistor circuits with single crystal silicon, and bonding the array of transistor circuits to an optically transmissive substrate with an adhesive layer, in the LCD panel of Novis in view of Stewart and Kitazima because this would provide a high quality LCD display panel with a low cost of fabrication, as taught by Zavracky (col. 1, lines 53-56).

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 14, 16, 17, 25-29 and 39-58 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4-7, 20-22 and 29 of U.S. Patent No. 6,476,784 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent and the application are claiming common subject matter, as follows: a portable display system comprising a housing, an active matrix color sequential LCD, a light source, a lens, a memory card reader, and a display circuit including a timing circuit and a switching circuit.

Response to Arguments

8. It is noted Applicants that the claim objections in the last Office Action dated 10/29/2003 are hereby withdrawn in view of the amendment filed on 4/29/2004.

9. Applicants' arguments, see pages 7-11 of the amendment, filed on 04/29/04, with respect to the rejections under 35 USC 103(a) have been fully considered but they are not persuasive because as follows:

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Applicants argue that Stewart is unrelated to portable devices because Stewart discusses a large LCD panel, see page 10, lines 4-11 of the amendment. Examiner disagrees because one of ordinary skill in the art would have found it obvious to make the LCD in a small size, and the Novis reference (the primary reference) expressly teaches this.

Applicants argue that Kitazima fails to suggest a switching circuit switching a common voltage applied to the liquid crystal display to erase the image, see page 10, last paragraph. Examiner disagrees because switching a picture cell (or image) on or off (i.e., erasing an image) is not only based on the voltages applied to source electrodes (or data electrode or column electrodes) and gate electrodes (or scan electrodes or row electrodes), but also on the voltage applied to counter electrode (or common electrodes), because a picture cell turned on or off is based on the potential difference between the voltages applied to the pixel electrode and the counter electrode. In most cases, the counter electrodes are commonly connected to ground. In the Kitazima case, the voltage applied to the counter electrode (V_{CM}) is switched as shown in figs. 7 and 9. Accordingly, examiner believes Kitazima discloses the above underlined feature.

For the above reasons, it is believed that the rejections should be sustained.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is (703) 306-5422. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at (703) 305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231


or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

JHN
June 29, 2004


Jimmy H. Nguyen
Examiner
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